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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,891	06/09/2005	Bud G. Harmon	32-02 US	6483

23713 7590 11/14/2006

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EXAMINER	
SAYALA, CHHAYA D	
ART UNIT	**PAPER NUMBER**
1761	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/511,891	HARMON ET AL.	
	Examiner	Art Unit	
	C. SAYALA	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harmon et al. (US Patent 6235339) in view of Roets (US Patent 4559146) and the admitted prior art in the specification at page 5, lines 6-10, and further in view of Kaczmarek et al. (US Patent 4983297), Fullerton et al. (US Patent 4085041) and Othmer (US Patent 3772187).

Harmon et al. teach that using magnesium chloride instead of the prior art usage of iron chloride is beneficial. (See col. 4, lines 28-41). Harmon et al. teach treating organic waste streams containing animal fat, blood, tissue, etc. The amount of magnesium chloride: 0.5-5.0% by vol. The patent does not teach aeration. It does teach the magnesium chloride-dissolved air flotation process and the removal of the flocculated material. See col. 3, lines 60-67. The patent also teaches reducing the BOD to less than about 750 ppm. See claim 5.

Roets teaches chemically treating proteinaceous waste water, and then aeration of the waste water. Foam formed is removed during the aeration. See the claims that describe the steps. In this regard, Fullerton et al. teach at col. 2, lines 1-10, that oxygen

aeration produces foam that is typically undesirable, which rises to the top and is removed.

The specification discloses that the aeration is performed as is known in the art. The prior art listed therein is said to accomplish the aeration. Othmer teaches coagulating and flocculating waste first before aeration, and then using a Venturi system for the aeration (col. 2, line 4, col. 4, lines 48-50) to reduce BOD (line 56). As for the time for aeration, lines 15-25 (col. 4) teaches some of the parameters determine this. However, aeration time will depend on the degree of reduction of BOD required in the effluent and the nature of the BOD. See also col. 10, lines 42-44. Kaczmarek et al., drawn to waste water, is used here only to show that aerobic waste treatment also is used because the method decreases BOD. See col. 4, lines 46-49.

It would have been obvious to combine the chemical treatment of proteinaceous wastes of Harmon et al. with an aeration step as shown by Roets, which is also drawn to the same endeavor, and uses iron chloride instead of magnesium chloride, which is followed thereafter by aeration. Since Kaczmarek et al. teach that aeration also reduces BOD in waste treatment, then such disclosure provides the motivation to combine Harmon et al's magnesium chloride treatment to reduce BOD with aeration to reduce BOD, in the same manner as Roet, i.e. chemical treatment followed by aeration. It would also have been obvious to remove any foam formation for the reasons shown by Fullerton et al. and Roets. To use any aeration system, including the Venturi system as shown by Othmer would have been obvious, since no unobviousness in this regard has been established herein.

Response to Arguments

Applicant's arguments filed 8/28/06 have been fully considered but they are not persuasive.

Applicant has argued that aerating the waste stream for a time of about one to seven days provides a BOD level that is reduced more when $MgCl_2$ is used.

A review of the references applied show the following

- Roets teaches clarifying proteinaceous waste water with chemical treatment ($FeCl_3$) and aeration.
- Harmon et al. teaches the benefits of using $MgCl_2$ instead of $FeCl_3$ and the benefits of substituting one for the other in the reduction of BOD.
- Therefore, to replace $FeCl_3$ with $MgCl_2$ would have been prima facie obvious in Roets.
- Kaczmarek et al. is drawn to waste water treating with aeration and teaches reduction of BOD with this method. One embodiment shows aeration for a day.
- Othmer teaches an aeration time from 30 minutes to several hours.
- Othmer teaches that the aeration time depends on whether coagulating and deflocculating agents were used.
- The specification discloses that "The time of aeration depends on the beginning BOD and COD levels of the effluent to be treated and the desired finals levels. This can be determined without undue experimentation." (Page 5, specification).

- Thus aeration time depends on the nature of the BOD, the BOD levels in the effluent to start with and the final levels desired, and whether coagulating and deflocculating agents were used. And all of these factors can be used to determine aeration time, *without undue experimentation.*

Therefore, when Harmon et al. is combined with references that teach chemical treatment with iron chloride and aeration, and the iron chloride is substitute with magnesium chloride, and the aeration time calculated based on all the factors above, *without undue experimentation*, then the aeration time would be obvious. Also, it is well settled that a patent cannot be properly granted for [an invention] which would flow naturally from the teaching of the prior art. *American Infra-Red Radiant Co. v Lambert Indus., Inc.,* 360 F.2d 977, 986 [149 USPQ 722 (CCPA 1958)], (8th Cir.) (quoting *Application of Libby,* 255 F.2d 412 [118 USPQ 194 (CCPA 1958)], *CERT. DENIED, 385 U.S. 920* [151 USPQ 757](1966).

As for applicant's characterization of Kaczamarek et al. being drawn to waste water effluents from crude oil production wells, the treatment is still related to waste water effluents and is relevant prior art and moreover, the claim includes waste water from chemical plants, which this is. Applicant states that the reference aeration includes microorganisms, but waste water from fermentation plants, which the claim includes, would also include microbes. When one skilled in the art is looking to clarify waste water effluents, all prior art that relates to decreasing BOD is analogous art. In fact, patentees state at col. 4, lines 47-49: "Any conventional aerobic waste water treatment method for decreasing the Biological Oxygen Demand (B.O.D.) level may be used."

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. SAYALA whose telephone number is 571-272-1405.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. SAYALA
Primary Examiner
Group 1700.